

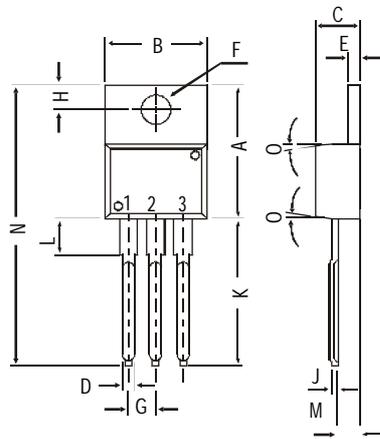
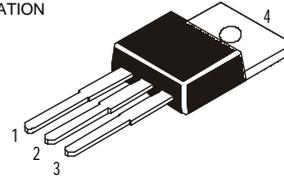
2N6486, 6487, 6488 NPN PLASTIC POWER TRANSISTORS
2N6489, 6490, 6491 PNP PLASTIC POWER TRANSISTORS
General Purpose Amplifier and Switching Applications

Boca Semiconductor Corp.

BSC

PIN CONFIGURATION

1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR



All dimensions in mm.

DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O	DEG 7	

ABSOLUTE MAXIMUM RATINGS

	6486 6487 6488			6489 6490 6491		
Collector-base voltage (open emitter)	V_{CB0}	max.	50	70	90	V
Collector-emitter voltage (open base)	V_{CEO}	max.	40	60	80	V
Collector current	I_C	max.		15		A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.		75		W
Junction temperature	T_j	max.		150		$^\circ\text{C}$
Collector-emitter saturation voltage $I_C = 5\text{ A}; I_B = 0.5\text{ A}$	V_{CEsat}	max.		1.3		V
D.C. current gain $I_C = 5\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}	min.		20		
		max.		150		

RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)

	6486 6487 6488			6489 6490 6491		
Limiting values						
Collector-base voltage (open emitter)	V_{CB0}	max.	50	70	90	V
Collector-emitter voltage (open base)	V_{CEO}	max.	40	60	80	V
Emitter-base voltage (open collector)	V_{EBO}	max.		5.0		V

2N6486, 2N6487, 2N6488
2N6489, 2N6490, 2N6491

Collector current	I_C	max.	15	A
Base current	I_B	max.	5.0	A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	75	W
Derate above 25°C		max.	0.6	W°C
Total power dissipation up to $T_A = 25^\circ\text{C}$	P_{tot}	max.	1.8	W
Derate above 25°C		max.	0.014	W°C
Junction temperature	T_j	max.	150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$		70	$^\circ\text{C/W}$
From junction to case	$R_{th\ j-c}$		1.67	$^\circ\text{C/W}$

CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

6486 6487 6488
6489 6490 6491

Collector cutoff current				
$I_B = 0; V_{CE} = 20\text{ V}$	I_{CEO}	max.	1.0	- - mA
$I_B = 0; V_{CE} = 30\text{ V}$	I_{CEO}	max.	-	1.0 - mA
$I_B = 0; V_{CE} = 40\text{ V}$	I_{CEO}	max.	-	- 1.0 mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 45\text{ V}$	I_{CEX}	max.	500	- - μA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 65\text{ V}$	I_{CEX}	max.	-	500 - μA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 85\text{ V}$	I_{CEX}	max.	-	- 500 μA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 40\text{ V}; T_C=150^\circ\text{C}$	I_{CEX}	max.	5.0	- - mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 60\text{ V}; T_C=150^\circ\text{C}$	I_{CEX}	max.	-	5.0 - mA
$V_{EB(off)} = 1.5\text{ V}; V_{CE} = 80\text{ V}; T_C=150^\circ\text{C}$	I_{CEX}	max.	-	- 5.0 mA
Emitter cut-off current				
$I_C = 0; V_{EB} = 5\text{ V}$	I_{EBO}	max.	1.0	mA
Breakdown voltages				
$I_C = 200\text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	min.	40	60 80 V
$I_C = 1\text{ mA}; I_E = 0$	V_{CBO}	min.	50	70 90 V
$I_C = 200\text{ mA}; V_{BE} = 1.5\text{ V}$	$V_{CEX(sus)}^*$	min.	50	70 90 V
$I_E = 1\text{ mA}; I_C = 0$	V_{EBO}	min.		5.0 V
Saturation voltages				
$I_C = 5\text{ A}; I_B = 0.5\text{ A}$	V_{CEsat}^*	max.	1.3	V
$I_C = 15\text{ A}; I_B = 5\text{ A}$	V_{CEsat}^*	max.	3.5	V
Base-emitter on voltage				
$I_C = 5\text{ A}; V_{CE} = 4\text{ V}$	$V_{BE(on)}^*$	max.	1.3	V
$I_C = 15\text{ A}; V_{CE} = 4\text{ V}$	$V_{BE(on)}^*$	max.	3.5	V
D.C. current gain				
$I_C = 5\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.	20	
		max.	150	
$I_C = 15\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.	5.0	
Transition frequency				
$I_C = 1\text{ A}; V_{CE} = 4\text{ V}; f = 1\text{ MHz}$	$f_T(1)$	min.	5.0	MHz
Small signal current gain				
$I_C = 1.0\text{ A}; V_{CE} = 4\text{ V}; f = 1.0\text{ KHz}$	h_{fe}	min.	25	

* Pulse test: pulse width $\leq 300\ \mu\text{s}$; duty cycle $\leq 2\%$

(1) $f_T = |h_{fe}| \cdot f_{test}$